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PA - (TOKE ) TOSHIBA KK

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AB - JP03197640 Ta raw material is reacted with iodine so that only pure Ta  
forms TaI<sub>5</sub> at 300-700 deg.C, then TaI<sub>5</sub> is decomposed to Ta and 5/2 I<sub>2</sub>  
at 800-1,500 deg.C, and Ta is further refined by electron beam  
melting. The Ta includes 0 below 50 ppm and Fe, Ni and Cr in amts.  
less than 0.05 ppm respectively.

- (Dwg.0/3)

IW - HIGH PURE TANTALUM PRODUCE REACT RAW TANTALUM MATERIAL IODINE  
DECOMPOSE TANTALUM IODIDE FORMING ELECTRON BEAM MELT TANTALUM OBTAIN

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NC - 001

OPD - 1989-12-26

ORD - 1991-08-29

PAW - (TOKE ) TOSHIBA KK

TI - High purity tantalum prodn. - by reacting raw tantalum material with  
iodine, decomposing tantalum iodide formed and electron beam melting  
tantalum obtd.

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 03197640  
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APPLICATION DATE : 26-12-89  
APPLICATION NUMBER : 01334805

APPLICANT : TOSHIBA CORP;

INVENTOR : KOBANAWA YOSHIKO;

INT.CL. : C22C 27/02 C22C 1/00 C22C 1/02 C23C 14/34

TITLE : HIGH PURITY TANTALUM MATERIAL AND ITS PRODUCTION AND TANTALUM  
TARGET USING THE SAME

ABSTRACT : PURPOSE: To provide a high purity Ta material usable for semiconductor device by  
melting Ta refined by an iodide decomposition method in high vacuum.

CONSTITUTION: Ta is refined by an iodide decomposition method. This Ta is melted in  
high vacuum of  $\leq 5 \times 10^{-5}$  mbar, by which a high purity Ta material in which  
oxygen content is regulated to  $\leq 50$  ppm and also the contents of Fe, Ni, and Cr are  
regulated to  $\leq 0.05$  ppm, respectively, is obtained. If the Ta refined by an iodide  
decomposition method is further refined by an electron beam melting method, a high purity  
Ta ingot minimal in contamination with oxygen and nitrogen can be prepared. By using  
this Ta material, a Ta target of arbitrary shape can be produced.

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